olivetti

SCFAPI - FAS

Cod. 3866720 H

AUDIT 7 SYSTEM

[redacted]

REFERENCE TABLE

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DECIMAL INSTRUCTIONS

FUNCTION	SYMBOL	OPER. CODE		OPERANDS		AFFECTED FIELD
ADD MEMORY	AM L1,L2*	0	1	L1	L2	MEM. P1
ADD MEMORY REGISTER	AMR L1,R2*	8	0	L1	R2	MEM. P1
		8	1	L1	•R2	
ADD REGISTER	AR R1,R2*	C	0	R1	R2	R1
		C	1	R1	•R2	
		C	2	•R1	R2	
		C	3	•R1	•R2	
ADD REGISTER IMMEDIATE	ARI R1,I *	5	0	R1	I	R1
		5	2	•R1	I	
ADD REGISTER MEMORY	ARM R1,L2*	4	0	R1	L2	R1
		4	2	•R1	L2	
COMPARE MEMORY	CM L1,L2*	C	F	L1	L2	-
COMPARE MEMORY REGISTER	CMR L1,R2*	C	C	L1	R2	-
		C	D	L1	•R2	
COMPARE REGISTER	CR R1,R2*	0	C	R1	R2	-
		0	D	R1	•R2	
		0	E	•R1	R2	
		0	F	•R1	•R2	
COMPARE REGISTER IMMEDIATE	CRI R1,I *	5	C	R1	I	-
		5	E	•R1	I	
COMPARE REGISTER MEMORY	CRM R1,L2*	4	D	R1	L2	-
		4	F	•R1	L2	
DIVIDE	DIV R1,N	5	8	R1	N	WORK REG.
		5	A	•R1	N	
FORCE DECIMAL	FD DDD	1	10¦DDD →			WORK REG.
FORCE DECIMAL WITH SHIFT LEFT	FDS DDD *	1	00¦DDD →			WORK REG.
LOAD CROSS REGISTER	LCR R1,R2	1	4	R1	R2	R1,R2
		1	5	R1	•R2	
		1	6	•R1	R2	
		1	7	•R1	•R2	
LOAD REGISTER IMMEDIATE	LI R1,I	C	9	R1	I	R1
		C	B	•R1	I	
LOAD MEMORY REGISTER	LM R1,L2	4	8	R1	L2	R1
		4	A	•R1	L2	
LOAD REGISTER	LR R1,R2	0	8	R1	R2	R1
		0	9	R1	•R2	
		0	A	•R1	R2	
		0	B	•R1	•R2	
LOAD ZEROES	LZ R1,N	7	D	R1	N	N+1 REGS FROM R1
		7	F	•R1	N	
MOVE MEMORY	MVM L1,L2	C	8	L1	L2	MEM. P1
MOVE REGISTER	MVR L1,R2	8	8	L1	R2	MEM. P1
		8	9	L1	•R2	
MULTIPLY	MP R1,N	9	0	R1	N	WORK REG.
		9	2	•R1	N	
MULTIPLY WITH ROUND OFF	MPR R1,N	9	1	R1	N	WORK REG.
		9	3	•R1	N	
SHIFT DECIMAL LEFT ON REGISTER	SHL R1,N *	1	C	R1	N	R1
		1	E	•R1	N	
SHIFT DECIMAL RIGHT ON REGISTER	SHR R1,N *	1	D	R1	N	R1
		1	F	•R1	N	
SUBTRACT MEMORY	SM L1,L2*	C	4	L1	L2	MEM. P1
SUBTRACT MEMORY REGISTER	SMR L1,R2*	8	4	L1	R2	MEM. P1
		8	5	L1	•R2	
SUBTRACT REGISTER	SR R1,R2*	0	4	R1	R1	R1
		0	5	R1	•R1	
		0	6	•R1	R1	
		0	7	•R1	•R1	
SUBTRACT REGISTER IMMEDIATE	SRI R1,I *	5	4	R1	I	R1
		5	6	•R1	I	
SUBTRACT REGISTER MEMORY	SRM R1,L2*	4	4	R1	L2	R1
		4	6	•R1	L2	

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POINTER INSTRUCTIONS

ADD POINTER IMMEDIATE	API 1,LLL	3	C	LLL →		POINTER 1
ADD POINTER IMMEDIATE	API 2,LLL	3	D	LLL →		POINTER 2
DEFINE LABEL 1	DELB 1,EEE	9	C	EEE →		LABEL
DEFINE LABEL 2	DELB 2,EEE	9	D	EEE →		LABEL
LOAD POINTER (DECIMAL FORMAT)	LPD 1,R2	6	C	2	R2	R2
		6	D	2	•R2	
LOAD POINTER (DECIMAL FORMAT)	LPD 2,R2	6	C	3	R2	R2
		6	D	3	•R2	
LOAD POINTER (ADDRESS CONSTANT FORMAT)	LP 1,R2	6	C	6	R2	R2
		6	D	6	•R2	
LOAD POINTER (ADDRESS CONSTANT FORMAT)	LP 2,R2	6	C	7	R2	R2
		6	D	7	•R2	
SUBTRACT POINTER IMMEDIATE	SPI 1,LLL	3	E	LLL →		POINTER 1
SUBTRACT POINTER IMMEDIATE	SPI 2,LLL	3	F	LLL →		POINTER 2
TRANSFER CROSS POINTERS	TCP	3	8	0	2	PNTRS 1-2
TRANSFER LABEL	TL 1,EEE	B	8	EEE →		POINTER 1
TRANSFER LABEL	TL 2,EEE	B	9	EEE →		POINTER 2
TRANSFER LABEL WITH DISPLACEMENT	TLD 1,ddddd(EEE)	F	8	EEE →		ddddd PNTR 1
TRANSFER LABEL WITH DISPLACEMENT	TLD 2,ddddd(EEE)	F	9	EEE →		ddddd PNTR 2
TRANSFER MEMORY	TM 1,dd	F	C	00¦dd		POINTER 1
TRANSFER MEMORY	TM 2,dd	F	D	00¦dd		POINTER 2
TRANSFER POINTER 2	TP 1	A	E	0	1	POINTER 1
TRANSFER POINTER 1	TP 2	A	F	0	1	POINTER 2
TRANSFER REGISTER (ADDR.CONSTANT FORMAT)	TR 1,R2	6	C	4	R2	POINTER 1
		6	D	4	•R2	
TRANSFER REGISTER (ADDR.CONSTANT FORMAT)	TR 2,R2	6	C	5	R2	POINTER 2
		6	D	5	•R2	
TRANSFER REGISTER (DECIMAL FORMAT)	TRD 1,R2	6	C	0	R2	POINTER 1
		6	D	0	•R2	
TRANSFER REGISTER (DECIMAL FORMAT)	TRD 2,R2	6	C	1	R2	POINTER 2
		6	D	1	•R2	

BINARY INSTRUCTIONS ON SPECIAL REGISTERS

COMPARE IMMEDIATE	WR	CI P,'X' *	2	3	P	X	
FORCE IMMEDIATE	WR	FI P,'X'	2	5	P	X	WORK REG.
AND IMMEDIATE	WR	NI P,'X' *	2	0	P	X	WORK REG.
OR IMMEDIATE	WR	OI P,'X' *	2	1	P	X	WORK REG.
TEST IMMEDIATE UNDER MASK	WR	TI P,'X' *	2	4	P	X	
SHIFT BINARY LEFT	WR	SHLB dd *	9	7	00¦dd		WORK REG.
SHIFT BINARY RIGHT	WR	SHRB dd *	9	7	10¦dd		WORK REG.
EXCLUSIVE OR	WR	XI P,'X' *	2	2	P	X	WORK REG.
COMPARE IMMEDIATE	CR	CIC P,'X' *	2	B	P	X	
FORCE IMMEDIATE	CR	FIC P,'X'	2	D	P	X	COND. REG.
AND IMMEDIATE	CR	NIC P,'X' *	2	8	P	X	COND. REG.
OR IMMEDIATE	CR	OIC P,'X' *	2	9	P	X	COND. REG.
TEST UNDER MASK	CR	TIC P,'X' *	2	C	P	X	
EXCLUSIVE OR	CR	XIC P,'X' *	2	A	P	X	COND. REG.

BINARY ALPHANUMERIC INSTRUCTIONS

COMPARE BINARY CHARACTER	CBC LLL *	8	E	LLL →		-
COMPARE BINARY IMMEDIATE (POINTER 1)	CBI 1,'XX'*	8	C	X	X	-
COMPARE BINARY IMMEDIATE (POINTER 2)	CBI 2,'XX'*	8	D	X	X	-
MOVE CHARACTERS	MVC LLL	C	5	LLL →		MEM. P1
MOVE IMMEDIATE	MVI 1,'XX'	C	6	X	X	MEM. P1
MOVE IMMEDIATE	MVI 2,'XX'	C	7	X	X	MEM. P2

FORMAT MODIFICATION INSTRUCTIONS

CONVERT TO BINARY	CVB	3	8	0	1	WORK REG.
CONVERT TO DECIMAL	CVD	3	8	0	0	WORK REG.
PACK DECIMAL	PK R1,L2*	5	1	R1	L2	R1
		5	3	•R1	L2	
UNPACK DECIMAL	UPK L1,R2*	D	4	L1	R2	MEM. P1
		D	5	L1	•R2	
PACK HEXADECIMAL	PKX L1,L2*	D	7	L1	L2	MEM. P1
UNPACK HEXADECIMAL	UPKX L1,L2	D	6	L1	L2	MEM. P1

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BRANCH AND SKIP INSTRUCTIONS

BRANCH	B EEE	3	0	EEE →		-
BRANCH ON CONDITION (0)	B0 EEE	B	0	EEE →		-
BRANCH ON CONDITION (1)	B1 EEE	B	1	EEE →		-
BRANCH ON CONDITION (2)	B2 EEE	B	2	EEE →		-
BRANCH ON CONDITION (3)	B3 EEE	B	3	EEE →		-
BRANCH WITH DISPLACEMENT	BD ddddd(EEE)	7	0	EEE →		ddddd -
BRANCH WITH DISPL. ON CONDITION(0)	BD0 ddddd(EEE)	F	0	EEE →		ddddd -
BRANCH WITH DISPL.ON CONDITION(1)	BD1 ddddd(EEE)	F	1	EEE →		ddddd -
BRANCH WITH DISPL.ON CONDITION(2)	BD2 ddddd(EEE)	F	2	EEE →		ddddd -
BRANCH WITH DISPL.ON CONDITION(3)	BD3 ddddd(EEE)	F	3	EEE →		ddddd -
BRANCH WITH DISPL. ON NOT COND.(0)	BDN0 ddddd(EEE)	F	4	EEE →		ddddd -
BRANCH WITH DISPL. ON NOT COND.(1)	BDN1 ddddd(EEE)	F	5	EEE →		ddddd -
BRANCH WITH DISPL. ON NOT COND.(2)	BDN2 ddddd(EEE)	F	6	EEE →		ddddd -
BRANCH WITH DISPL. ON NOT COND.(3)	BDN3 ddddd(EEE)	F	7	EEE →		ddddd -
BRANCH ON NOT CONDITION (0)	BN0 EEE	B	4	EEE →		-
BRANCH ON NOT CONDITION (1)	BN1 EEE	B	5	EEE →		-
BRANCH ON NOT CONDITION (2)	BN2 EEE	B	6	EEE →		-
BRANCH ON NOT CONDITION (3)	BN3 EEE	B	7	EEE →		-
BRANCH AND STORE	BS EEE	3	2	EEE →		RAS
BRANCH WITH DISPL. AND STORE	BDS ddddd(EEE)	7	2	EEE →		ddddd RAS
BRANCH THROUGH MEMORY AND STORE	BTMS 1,dd	7	6	00¦dd		RAS
BRANCH THROUGH MEMORY AND STORE	BTMS 2,dd	7	7	00¦dd		RAS
BRANCH ON RESERVED ADDRESS	BRA dd	3	4	00¦dd		RAS
BRANCH THROUGH MEMORY (POINTER 1)	BTM 1,dd	7	4	00¦dd		-
BRANCH THROUGH MEMORY (POINTER 2)	BTM 2,dd	7	5	00¦dd		-
FORWARD SKIP	F dd	7	3	00¦dd		-
FORWARD SKIP ON CONDITION (0)	F0 dd	6	8	00¦dd		-
FORWARD SKIP ON CONDITION (1)	F1 dd	6	9	00¦dd		-
FORWARD SKIP ON CONDITION (2)	F2 dd	6	A	00¦dd		-
FORWARD SKIP ON CONDITION (3)	F3 dd	6	B	00¦dd		-
FORWARD SKIP ON NOT CONDITION(0)	FN0 dd	6	8	10¦dd		-
FORWARD SKIP ON NOT CONDITION(1)	FN1 dd	6	9	10¦dd		-
FORWARD SKIP ON NON CONDITION(2)	FN2 dd	6	A	10¦dd		-
FORWARD SKIP ON NOT CONDITION(3)	FN3 dd	6	B	10¦dd		-
REVERSE SKIP	R dd	7	3	01¦dd		-
REVERSE SKIP ON CONDITION (0)	R0 dd	6	8	01¦dd		-
REVERSE SKIP ON CONDITION (1)	R1 dd	6	9	01¦dd		-
REVERSE SKIP ON CONDITION (2)	R2 dd	6	A	01¦dd		-
REVERSE SKIP ON CONDITION (3)	R3 dd	6	B	01¦dd		-
REVERSE SKIP ON NOT CONDITION(0)	RN0 dd	6	8	11¦dd		-
REVERSE SKIP ON NOT CONDITION(1)	RN1 dd	6	9	11¦dd		-
REVERSE SKIP ON NOT CONDITION(2)	RN2 dd	6	A	11¦dd		-
REVERSE SKIP ON NOT CONDITION(3)	RN3 dd	6	B	11¦dd		-

KEYBOARD INSTRUCTIONS

KEYBOARD ENABLE PROGRAM KEYS	KEP 'XX'	A	8	X	X	SYST.MEM.
KEYBOARD ENABLE START KEYS	KES 'XX'	A	7	X	X	SYST.MEM
KEYBOARD NUMERIC INPUT	K N,d *	E	B	N	00¦d	WORK REG.
KEYBOARD NUM.INPUT(FORMAT CONTROL)	KC N,d *	E	B	N	01¦d	WORK REG.
KEYBOARD NUM.INPUT(FORMAT CONTROL -SIGN)	KCS N,d *	E	B	N	11¦d	WORK REG.
KEYBOARD NUMERIC INPUT WITH SIGN	KS N,d *	E	B	N	10¦d	WORK REG.
KEYBOARD ALPHANUMERIC INPUT	KA 1,LLL*	D	8	LLL →		MEM. P1
KEYBOARD ALPHANUMERIC INPUT	KA 2,LLL*	D	9	LLL →		MEM. P2
KEYBOARD ALPHAN. INPUT SINGLE CHARACTER	KAC 1 *	D	0	0	0	MEM. P1
KEYBOARD ALPHAN. INPUT SINGLE CHARACTER	KAC 2 *	D	1	0	0	MEM. P2
KEYBOARD PRINT	KP LLL *	D	B	LLL →		PR. BUFFER
KEYBOARD PRINT WITH INPUT INTO MEMORY	KPM 1,LLL*	D	2	LLL →		MEM. P1
KEYBOARD PRINT WITH INPUT INTO MEMORY	KPM 2,LLL*	D	3	LLL →		MEM. P2

EDIT INSTRUCTIONS

DEFINE EDITING (EUROPE)	DE1	3	8	0	3	SYST.MEM.
DEFINE EDITING (ENGLAND)	DE2	3	8	0	4	SYST.MEM.
DEFINE EDITING (U.S.A.)	DE3	3	8	0	5	SYST.MEM.
DEFINE FILLING CHARACTER	DFC 'XX'	A	A	X	X	SYST.MEM.
EDIT	ED N,d *	2	7	N	01¦d	MEM. P1
EXTENDED EDIT	EDE N,d *	2	7	N	00¦d	MEM. P1
EDIT WITH MASK	EDM N,R2 *	2	E	N	R2	MEM. P1
		2	F	N	•R2	MEM. P1

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PRINTER INSTRUCTIONS

DEFINE FORM PARAMETERS	DFP	'X',R2	9	E	X	R2	SYST.MEM.
			9	F	X	·R2	
DEFINE RED RIBBON	DRD		9	6	0	9	PR. BUFFER
LOAD FORM PARAMETERS	LFP	'X',R2	A	C	X	R2	R2
			A	D	X	·R2	
NUMERIC PRINTING (NORMAL EDITING - BLACK)	P	N,d *	E	2	N	01¦d	PR. BUFFER
NUMERIC PRINTING (EXTENDED EDITING - BLACK)	PE	N,d *	E	2	N	00¦d	PR. BUFFER
NUMERIC PRINTING (EXTENDED EDITING UNDEFINED COLOUR)	PEU	N,d *	E	3	N	00¦d	PR. BUFFER
NUMERIC PRINTING (NORMAL EDITING UNDEFINED COLOUR)	PU	N,d *	E	3	N	01¦d	PR. BUFFER
NUMERIC PRINTING (WITH MASK)	PM	N,R2	E	6	N	R2	PR. BUFFER
			E	7	N	·R2	PR. BUFFER
ALPHANUMERIC PRINTING (POINTER 1)	PA	1,LLL*	E	0	LLL	—	PR. BUFFER
ALPHANUMERIC PRINTING (POINTER 2)	PA	2,LLL*	E	1	LLL	—	PR. BUFFER
IMMEDIATE PRINTING	PI	'XX' *	E	A	X	X	PR. BUFFER
IMMEDIATE PRINTING ON CONDITION (0)	PI0	'XX' *	E	C	X	X	PR. BUFFER
IMMEDIATE PRINTING ON CONDITION (1)	PI1	'XX' *	E	D	X	X	PR. BUFFER
IMMEDIATE PRINTING ON CONDITION (2)	PI2	'XX' *	E	E	X	X	PR. BUFFER
IMMEDIATE PRINTING ON CONDITION (3)	PI3	'XX' *	E	F	X	X	PR. BUFFER

FRONT FEED INSTRUCTIONS

FRONT FEED EJECT (DEVICE 1)	FFE	1	8	2	0	4	PR. BUFFER
FRONT FEED EJECT (DEVICE 2)	FFE	2	8	3	0	4	PR. BUFFER
FRONT FEED INPUT (DEVICE 1)	FFI	1	8	2	0	0	PR. BUFFER
FRONT FEED INPUT (DEVICE 2)	FFI	2	8	3	0	0	PR. BUFFER
FRONT FEED OUTPUT (DEVICE 1)	FFO	1	8	2	0	3	PR. BUFFER
FRONT FEED OUTPUT (DEVICE 2)	FFO	2	8	3	0	3	PR. BUFFER
FRONT FEED PUNCH (DEVICE 1)	FFP	1	8	2	0	2	PR. BUFFER
FRONT FEED PUNCH (DEVICE 2)	FFP	2	8	3	0	2	PR. BUFFER
FRONT FEED SENSE (DEVICE 1)	FFS	1	8	2	0	1	PR. BUFFER
FRONT FEED SENSE (DEVICE 2)	FFS	2	8	3	0	1	PR. BUFFER

TABULATION AND NEW LINE INSTRUCTIONS

HORIZONTAL TABULATION	HT	EEE	6	2	EEE	—	PR. BUFFER
NEW LINE ON 'X' FEEDER	NL	'X',N*	6	3	X	N	PR. BUFFER
NEW LINE FORWARD ON FRONT FEED (DEVICE 1)	NLF	1,EEE*	6	6	EEE	—	PR. BUFFER
NEW LINE FORWARD ON FRONT FEED (DEVICE 2)	NLF	2,EEE*	6	7	EEE	—	PR. BUFFER
NEW LINE REVERSE ON FRONT FEED (DEVICE 1)	NLR	1,EEE*	6	4	EEE	—	PR. BUFFER
NEW LINE REVERSE ON FRONT FEED (DEVICE 2)	NLR	2,EEE*	6	5	EEE	—	PR. BUFFER
VERTICAL TABULATION SPROCKET 1	VT	1,EEE*	6	0	EEE	—	PR. BUFFER
VERTICAL TABULATION SPROCKET 2	VT	2,EEE*	6	1	EEE	—	PR. BUFFER

RESERVED ADDRESSES AND DATA STACK INSTRUCTIONS

ALLOCATE STACK FRAME	ALLC	LLL	5	9	LLL	—	STACK LEVEL
FREE STACK FRAME	FREE	LLL	9	5	LLL	—	STACK LEVEL
RESTORE REGISTER FROM DATA STACK	RSTR	R1,N	3	1	R1	N	DATA STACK
			3	3	·R1	N	
SAVE REGISTERS INTO DATA STACK	SAVE	R1,N	7	C	R1	N	
			7	E	·R1	N	
POP OUT RAS LEVEL	POP		3	8	0	8	RAS
PULL UP RAS	PULL	R1	6	C	8	R1	R1 - RAS
			6	D	8	·R1	
PUSH DOWN RAS	PUSH	R1	6	C	A	R1	RAS
			6	D	A	·R1	

SPECIAL INSTRUCTIONS

FORCE ZEROES INTO WORK REGISTER	FZS	P,N	2	6	P	N	WORK REG.
LOAD AUXILIARY REGISTER	LAX	R1	6	C	B	R1	R1
			6	D	B	·R1	
MODIFY BINARY (POINTER 1)	MDB	1,dd	9	A	00¦dd	—	NEXT INSTR.
MODIFY BINARY (POINTER 2)	MDB	2,dd	9	B	00¦dd	—	NEXT INSTR.
MODIFY DECIMAL	MDD	R1	6	C	9	R1	NEXT INSTR.
			6	D	9	·R1	
TRANSCODE CHARACTER	TRC	LLL	C	E	LLL	—	MEM. P1
SEARCH EQUAL CHARACTER	SEC	LLL *	3	5	LLL	—	AUX. REG.
SEARCH NOT EQUAL CHARACTER	SNEC	LLL *	3	9	LLL	—	AUX. REG.

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CONSOLE AND DISPLAY INSTRUCTIONS

DISPLAY MEMORY ADDRESSED BY POINTER 1	DYM	1,LLL	8	A	LLL	—	-
DISPLAY MEMORY ADDRESSED BY POINTER 2	DYM	2,LLL	8	B	LLL	—	-
ON LAMP 'X'	ON	'X'	E	4	X	0	LAMP
OFF LAMP 'X'	OFF	'X'	E	4	X	1	LAMP
OPERATOR CALL	OPC	L1,L2	6	F	L1	L2	MEM. P2

INPUT - OUTPUT INSTRUCTIONS

MOVE I/O PARAMETERS (POINTER 1)	MVIO	1,'X'	A	0	X	0	CCF
MOVE I/O PARAMETERS (POINTER 2)	MVIO	2,'X'	A	1	X	0	CCF
START INPUT-OUTPUT (POINTER 1)	STIO	1	A	E	0	0	COND. REG.
START INPUT-OUTPUT (POINTER 2)	STIO	2	A	F	0	0	COND. REG.
TEST UNIT 'XX'	TEST	'XX'	A	4	X	X	COND. REG.
WAIT UNIT 'XX'	WAIT	'XX'	A	5	X	X	COND. REG. AUX. REG.

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OPERAND LIMITS

SYMBOL	MEANING	SPACE IN OBJECT	VALUE IN SYMBOLIC
d	NUMBER OF FIGURES AFTER THE DECIMAL POINT	2 BITS	0-3
dd	SHORT DISPLACEMENT	6 BITS	0-63
DDD	DECIMAL CONSTANT (MAXIMUM 3 FIGURES)	10 BITS	0-999
ddddd	LONG DISPLACEMENT	16 BITS	0-65535
EEE	NUMBER OF LABEL, LINE OR PRINT POSITION	8 BITS	0-255
I	IMMEDIATE DECIMAL VALUE	4 BITS	0-15
L1-L2	LENGTH OF A FIELD POINTED BY POINTER 1 OR 2	4 BITS	1-16 *
LLL	LENGTH INTO A WHOLE BYTE	8 BITS	1-256 *
N	NUMBER OF DECIMAL FIGURES	4 BITS	0-15
P	DECIMAL POSITION IN WORK OR CONDITION REGISTER	4 BITS	0-15
R1-R2	REGISTER (FIRST OR SECOND OPERAND)	4 BITS	0-15
X	IMMEDIATE HEXADECIMAL VALUE	4 BITS	0-F

(*) A length in object is reduced by 1

MAGNETIC CARD AND DAS DTF

DTFMC

DTFNAME DTFMC BKSIZE=nnn, RECFORM=F/V, DEVICE=20,
TYPEFL=INPUT/OUTPUT/UPDATE, ACCESS=SEQ/RANDOM,
IOAREA=address, IORIF=label, WORKA=YES,
PROT=NOT; BSN=YES, RSTREC=NEXT/ACT, CHECK=YES.
EOFADD=procedure address, ERROPT=procedure address

DTFDK

DTFNAME DTFDK BKSIZE=nnn, RECSIZE=nnn, RECFORM=F/U, DEVICE=30,
TYPEFL=INPUT/OUTPUT/ADD/UPDATE,
ACCESS=SEQ/DIRECT/RANDOM, IOAREA=address,
IORIF=label, WORKA=YES, PROT=NOT, RSTREC=NEXT/ACT,
CHECK=YES, EOFADD=procedure address,
ERROPT=procedure address, FLNAME=name,
KEYLOC=nnn, KEYLTH=nnn, DATE=YES

AREA AND CONSTANT DEFINITION

MNEMONIC	FORMAT	KIND	LENGTH
DST	[ddd*]LLL	MEMORY	ddd*LLL or LLL BYTES
DCC	[ddd*LL]'CONSTANT'	CHARACTER	ddd*LL or LL or CONSTANT LENGTH
DCN	SAME	NUMERIC	SAME
DCX	SAME	HEXADECIMAL	SAME
DCB	SAME	BINARY	SAME
DCLB	VALUE OR LABEL NAME	LABEL	1 BYTE
DCD	VALUE OR SYMBOLIC ABSOL.EXPRESS.	DISPLACEMENT	2 BYTES
DCA	RELOCATABLE EXPRESSION	ADDRESS	4 BYTES
DCV	RELOCATABLE EXPRESSION	EXTERNAL ADDRESS	4 BYTES

CONDITION CODES

	0	1	2	3
DECIMAL AND LOGICAL COMPARISONS	1st=2nd	1st <	1st >	-
TESTS UNDER MASK	ALL ZEROES	MIXED	-	ALL ONES
SUMS AND SUBTRACTIONS	RIS=0	RIS<0	RIS>0	-
AND, OR, XOR	RIS=0	RIS≠0	-	-
BINARY OR DECIMAL SHIFTS AND FDS (BITS LOOSED)	ALL ZEROES	-	-	NOT ALL ZEROES
DECIMAL AND HEXADECIMAL PACKING	CONFORMABLE	NOT CONFORMABLE	-	-
DECIMAL UNPACKING	-	SIGN +	SIGN -	-
EDITING OF ALL KINDS	WR=0	WR<0	WR>0	-
SEARCH EQUAL OR NOT EQUAL CHARACT.	NOT FOUND	FOUND NOT EXHAUSTED	FOUND EXHAUSTED	-
NUMERIC INPUT FROM KEYBOARD	S0	S1	S2	S3÷S6
ALPHANUMERIC INPUT FROM KEYBOARD	S0	S1	S6	S2÷S5
SINGLE CHARACTER INPUT FROM KEYB.	S0	S1	S6	ANY OTHER KEY
NEW LINES OR VERTICAL TABULATION	NOT END PAGE	END PAGE	-	-
NEW LINES OR VERT. TAB. IN FRONT FEED	NOT END PAGE	END PAGE	"EEE" WRONG	-

EXTENDED MNEMONICS

AFTER COMPARISONS

BE-BDE	1st=2nd
BNE-BDNE	1st≠2nd
BL-BDL	1st<2nd
BNL-BDNL	1st⩾2nd
BH-BDH	1st>2nd
BNH-BDNH	1st⩽2nd

AFTER SUMS OR SUBTRACTIONS

BZ-BDZ	RIS=0
BNZ-BDNZ	RIS≠0
BM-BDM	RIS<0
BNM-BDNM	RIS⩾0
BP-BDP	RIS>0
BNP-BDNP	RIS⩽0

AFTER TESTS UNDER MASK

BZ-BDZ	ZEROES
BNZ-BDNZ	NOT ZEROES
BM-BDM	MIXED
BNM-BDNM	NOT MIXED
BO-BDO	ONES
BNO-BDNO	NOT ONES

AFTER EDITING OR NUMERIC PRINTING

BZ-BDZ	W.R.=0
BNZ-BDNZ	W.R.≠0
BM-BDM	W.R.<0
BNM-BDNM	W.R.⩾0
BP-BDP	W.R.>0
BNP-BDNP	W.R.⩽0

AFTER NEW LINES OR VERTICAL TABULATION

BE-BDE	NOT END OF PAGE
BM-BDM	END OF PAGE
BNM-BDNM	NOT END OF PAGE

AFTER DECIMAL UNPACKING

BM-BDM	MINUS SIGN
BP-BDP	PLUS SIGN

AFTER SHIFTS OR FDS

BZ-BDZ	NOT OVERFLOW
BO-BDO	OVERFLOW

PERMANENT SYSTEM MEMORY ASSIGNMENT

	ADDRESS		
	HEXADECIMAL	DECIMAL	LENGTH
AUXILIARY REGISTER	0A8	168	8 BYTES
RUNNING PROGRAM STATUS	0B0	176	12 BYTES
INTERRUPTING PROGRAM STATUS	0BC	188	4 BYTES
IDENTIFIER LABEL TABLE	0C4	196	3 BYTES
CONDITION REGISTER	0C8	200	8 BYTES
INTERRUPTED PROGRAM STATUS	0D0	208	12 BYTES
RESERVED ADDRESSES STACK	140	320	16 BYTES

RELATIONSHIP OF LENGTHS

<table>
<tr><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td><td>DIGIT</td></tr>
<tr><td colspan="2">BYTE</td><td colspan="2">BYTE</td><td colspan="2">BYTE</td><td colspan="2">BYTE</td><td colspan="2">BYTE</td><td colspan="2">BYTE</td><td colspan="2">BYTE</td><td colspan="2">BYTE</td></tr>
<tr><td colspan="4">ADDRESS REGISTER</td><td colspan="4">ADDRESS REGISTER</td><td colspan="4">ADDRESS REGISTER</td><td colspan="4">ADDRESS REGISTER</td></tr>
<tr><td colspan="16">DECIMAL REGISTER</td></tr>
</table>

DECIMAL, HEXADECIMAL, BINARY, ISO CODE-INTERNATIONAL VERSION

DECIMAL	HEXADECIMAL	AUDIT 7 8 BIT CODE	ISO CODE	DECIMAL	HEXADECIMAL	AUDIT 7 8 BIT CODE	ISO CODE	DECIMAL	HEXADECIMAL	BINARY CODE	DECIMAL	HEXADECIMAL	BINARY CODE
0	00	0000 0000	NUL	64	40	0100 0000	@	128	80	1000 0000	192	C0	1100 0000
1	01	0000 0001	SOH	65	41	0100 0001	A	129	81	1000 0001	193	C1	1100 0001
2	02	0000 0010	STX	66	42	0100 0010	B	130	82	1000 0010	194	C2	1100 0010
3	03	0000 0011	ETX	67	43	0100 0011	C	131	83	1000 0011	195	C3	1100 0011
4	04	0000 0100	EQT	68	44	0100 0100	D	132	84	1000 0100	196	C4	1100 0100
5	05	0000 0101	ENQ	69	45	0100 0101	E	133	85	1000 0101	197	C5	1100 0101
6	06	0000 0110	ACK	70	46	0100 0110	F	134	86	1000 0110	198	C6	1100 0110
7	07	0000 0111	BEL	71	47	0100 0111	G	135	87	1000 0111	199	C7	1100 0111
8	08	0000 1000	SS	72	48	0100 1000	H	136	88	1000 1000	200	C8	1100 1000
9	09	0000 1001	HT	73	49	0100 1001	I	137	89	1000 1001	201	C9	1100 1001
10	0A	0000 1010	LF	74	4A	0100 1010	J	138	8A	1000 1010	202	CA	1100 1010
11	0B	0000 1011	VT	75	4B	0100 1011	K	139	8B	1000 1011	203	CB	1100 1011
12	0C	0000 1100	FF	76	4C	0100 1100	L	140	8C	1000 1100	204	CC	1100 1100
13	0D	0000 1101	CR	77	4D	0100 1101	M	141	8D	1000 1101	205	CD	1100 1101
14	0E	0000 1110	SO	78	4E	0100 1110	N	142	8E	1000 1110	206	CE	1100 1110
15	0F	0000 1111	SI	79	4F	0100 1111	O	143	8F	1000 1111	207	CF	1100 1111
16	10	0001 0000	DLE	80	50	0101 0000	P	144	90	1001 0000	208	D0	1101 0000
17	11	0001 0001	DC_1	81	51	0101 0001	Q	145	91	1001 0001	209	D1	1101 0001
18	12	0001 0010	DC_2	82	52	0101 0010	R	146	92	1001 0010	210	D2	1101 0010
19	13	0001 0011	DC_3	83	53	0101 0011	S	147	93	1001 0011	211	D3	1101 0011
20	14	0001 0100	DC_4	84	54	0101 0100	T	148	94	1001 0100	212	D4	1101 0100
21	15	0001 0101	NAK	85	55	0101 0101	U	149	95	1001 0101	213	D5	1101 0101
22	16	0001 0110	SYN	86	56	0101 0110	V	150	96	1001 0110	214	D6	1101 0110
23	17	0001 0111	ETB	87	57	0101 0111	W	151	97	1001 0111	215	D7	1101 0111
24	18	0001 1000	CAN	88	58	0101 1000	X	152	98	1001 1000	216	D8	1101 1000
25	19	0001 1001	EM	89	59	0101 1001	Y	153	99	1001 1001	217	D9	1101 1001
26	1A	0001 1010	SUB	90	5A	0101 1010	Z	154	9A	1001 1010	218	DA	1101 1010
27	1B	0001 1011	ESC	91	5B	0101 1011	[	155	9B	1001 1011	219	DB	1101 1011
28	1C	0001 1100	FS	92	5C	0101 1100	\	156	9C	1001 1100	220	DC	1101 1100
29	1D	0001 1101	GS	93	5D	0101 1101	]	157	9D	1001 1101	221	DD	1101 1101
30	1E	0001 1110	RS	94	5E	0101 1110	↑	158	9E	1001 1110	222	DE	1101 1110
31	1F	0001 1111	US	95	5F	0101 1111	—	159	9F	1001 1111	223	DF	1101 1111
32	20	0010 0000	SPACE	96	60	0110 0000	`	160	A0	1010 0000	224	E0	1110 0000
33	21	0010 0001	!	97	61	0110 0001	a	161	A1	1010 0001	225	E1	1110 0001
34	22	0010 0010	”	98	62	0110 0010	b	162	A2	1010 0010	226	E2	1110 0010
35	23	0010 0011	#	99	63	0110 0011	c	163	A3	1010 0011	227	E3	1110 0011
36	24	0010 0100	¤	100	64	0110 0100	d	164	A4	1010 0100	228	E4	1110 0100
37	25	0010 0101	%	101	65	0110 0101	e	165	A5	1010 0101	229	E5	1110 0101
38	26	0010 0110	&	102	66	0110 0110	f	166	A6	1010 0110	230	E6	1110 0110
39	27	0010 0111	’	103	67	0110 0111	g	167	A7	1010 0111	231	E7	1110 0111
40	28	0010 1000	(	104	68	0110 1000	h	168	A8	1010 1000	232	E8	1110 1000
41	29	0010 1001	)	105	69	0110 1001	i	169	A9	1010 1001	233	E9	1110 1001
42	2A	0010 1010	*	106	6A	0110 1010	j	170	AA	1010 1010	234	EA	1110 1010
43	2B	0010 1011	+	107	6B	0110 1011	k	171	AB	1010 1011	235	EB	1110 1011
44	2C	0010 1100	,	108	6C	0110 1100	l	172	AC	1010 1100	236	EC	1110 1100
45	2D	0010 1101	-	109	6D	0110 1101	m	173	AD	1010 1101	237	ED	1110 1101
46	2E	0010 1110	.	110	6E	0110 1110	n	174	AE	1010 1110	238	EE	1110 1110
47	2F	0010 1111	/	111	6F	0110 1111	o	175	AF	1010 1111	239	EF	1110 1111
48	30	0011 0000	0	112	70	0111 0000	p	176	B0	1011 0000	240	F0	1111 0000
49	31	0011 0001	1	113	71	0111 0001	q	177	B1	1011 0001	241	F1	1111 0001
50	32	0011 0010	2	114	72	0111 0010	r	178	B2	1011 0010	242	F2	1111 0010
51	33	0011 0011	3	115	73	0111 0011	s	179	B3	1011 0011	243	F3	1111 0011
52	34	0011 0100	4	116	74	0111 0100	t	180	B4	1011 0100	244	F4	1111 0100
53	35	0011 0101	5	117	75	0111 0101	u	181	B5	1011 0101	245	F5	1111 0101
54	36	0011 0110	6	118	76	0111 0110	v	182	B6	1011 0110	246	F6	1111 0110
55	37	0011 0111	7	119	77	0111 0111	w	183	B7	1011 0111	247	F7	1111 0111
56	38	0011 1000	8	120	78	0111 1000	x	184	B8	1011 1000	248	F8	1111 1000
57	39	0011 1001	9	121	79	0111 1001	y	185	B9	1011 1001	249	F9	1111 1001
58	3A	0011 1010	:	122	7A	0111 1010	z	186	BA	1011 1010	250	FA	1111 1010
59	3B	0011 1011	;	123	7B	0111 1011	{	187	BB	1011 1011	251	FB	1111 1011
60	3C	0011 1100	<	124	7C	0111 1100	|	188	BC	1011 1100	252	FC	1111 1100
61	3D	0011 1101	=	125	7D	0111 1101	}	189	BD	1011 1101	253	FD	1111 1101
62	3E	0011 1110	>	126	7E	0111 1110	~	190	BE	1011 1110	254	FE	1111 1110
63	3F	0011 1111	?	127	7F	0111 1111	DEL	191	BF	1011 1111	255	FF	1111 1111

OBJECT CODE - MNEMONIC CODE

OBJECT				MNEMONIC	OBJECT				MNEMONIC	OBJECT				MNEMONIC	OBJECT				MNEMONIC
0	1			AM	5	8			DIV	8	0 - 1			AMR	C	8			MVM
0	4÷7			SR	5	9			ALLC	8	2	0	0	FFI	C	9			LI
0	8÷B			LR	5	A			DIV	8	2	0	1	FFS	C	B			LI
0	C÷F			CR	5	C÷E			CRI	8	2	0	2	FFP	C	C - D			CMR
1	00			FDS	6	0÷1			VT	8	2	0	3	FFO	C	E			TRC
1	10			FD	6	2			HT	8	2	0	4	FFE	C	F			CM
1	4÷7			LCR	6	3			NL	8	3	0	0	FFI	D	0	0	0	KAC
1	C			SHL	6	6÷7			NLF	8	3	0	1	FFS	D	1	0	0	KAC
1	D			SHR	6	4÷5			NLR	8	3	0	2	FFP	D	2 - 3			KPM
1	E			SHL	6	8	00		F0	8	3	0	3	FFO	D	4 - 5			UPK
1	F			SHR	6	8	01		R0	8	3	0	4	FFE	D	6			UPKX
2	0			NI	6	8	10		FN0	8	4 - 5			SMR	D	7			PKX
2	1			OI	6	8	11		RN0	8	8 - 9			MVR	D	8			KA
2	2			XI	6	9	00		F1	8	A - B			DYM	D	9			KA
2	3			CI	6	9	01		R1	8	C - D			CBI	D	B			KP
2	4			TI	6	9	10		FN1	8	E			CBC	E	0			PA
2	5			FI	6	9	11		RN1	9	0			MP	E	1			PA
2	6			FZS	6	A	00		F2	9	1			MPR	E	2		00	PE
2	7		00	EDE	6	A	01		R2	9	2			MP	E	2		01	P
2	7		01	ED	6	A	10		FN2	9	3			MPR	E	3		00	PEU
2	8			NIC	6	A	11		RN2	9	4		00	YPM	E	3		01	PU
2	9			OIC	6	B	00		F3	9	5			FREE	E	4		0	ON
2	A			XIC	6	B	01		R3	9	6	0	9	DRD	E	4		1	OFF
2	B			CIC	6	B	10		FN3	9	7	00		SHLB	E	6			PM
2	C			TIC	6	B	11		RN3	9	7	10		SHRB	E	7			PM
2	D			FIC	6	C	0 - 1		TRD	9	A - B	00		MDB	E	A			PI
2	E - F			EDM	6	C	2 - 3		LPD	9	C - D			DELB	E	B		00	K
3	0			B	6	C	4 - 5		TR	9	E - F			DFP	E	B		01	KC
3	1			RSTR	6	C	6 - 7		LP	A	0 - 1			MVIO	E	B		10	KS
3	2			BS	6	C	8		PULL	A	4			TEST	E	B		11	KCS
3	3			RSTR	6	C	9		MDD	A	5			WAIT	E	C			PI0
3	4		00	BRA	6	C	A		PUSH	A	7			KES	E	D			PI1
3	5			SEC	6	C	B		LAX	A	8			KEP	E	E			PI2
3	8	0	0	CVD	6	D	0 - 1		TRD	A	A			DFC	E	F			PI3
3	8	0	1	CVB	6	D	2 - 3		LPD	A	C - D			LFP	F	0			BD0
3	8	0	2	TCP	6	D	4 - 5		TR	A	E	0	0	STIO	F	1			BD1
3	8	0	3	DE1	6	D	6 - 7		LP	A	E	0	1	TP	F	2			BD2
3	8	0	4	DE2	6	D	8		PULL	A	E	0	2	YBP	F	3			BD3
3	8	0	5	DE3	6	D	9		MDD	A	F	0	0	STIO	F	4			BDN0
3	8	0	6	YHL	6	D	A		PUSH	A	F	0	1	TP	F	5			BDN1
3	8	0	8	POP	6	D	B		LAX	A	F	0	2	YBP	F	6			BDN2
3	8	0	9	YPS	6	E			YOP	B	0			B0	F	7			BDN3
3	8	0	A	YPL	6	F			OPC	B	1			B1	F	8 - 9			TLD
3	9			SNEC	7	0			BD	B	2			B2	F	C	00		TM
3	C÷D			API	7	2			BDS	B	3			B3	F	D	00		TM
3	E÷F			SPI	7	3	00		F	B	4			BN0					
4	0÷2			ARM	7	3	01		R	B	5			BN1					
4	4÷6			SRM	7	4	00		BTM	B	6			BN2					
4	8÷A			LM	7	5	00		BTM	B	7			BN3					
4	D÷F			CRM	7	6	00		BTMS	B	8 - 9			TL					
5	0			ARI	7	7	00		BTMS	C	0÷3			AR					
5	1			PK	7	C			SAVE	C	4			SM					
5	2			ARI	7	D			LZ	C	5			MVC					
5	3			PK	7	E			SAVE	C	6			MVI					
5	4÷6			SRI	7	F			LZ	C	7			MVI					

byte of the right

2nd semibyte

1st semibyte

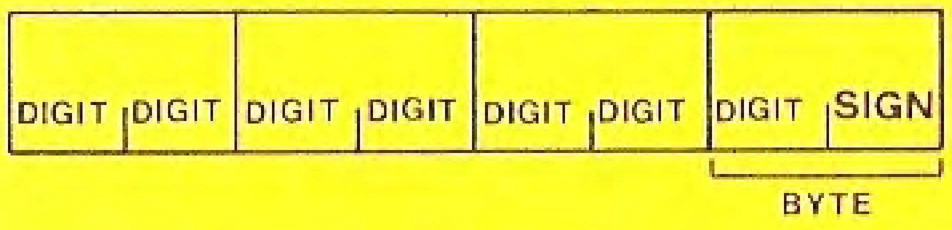
4 - 7	Maximum and minimum hexadecimal values for the same function
00	Binary values of two bits

GENERAL INSTRUCTION FORMATS

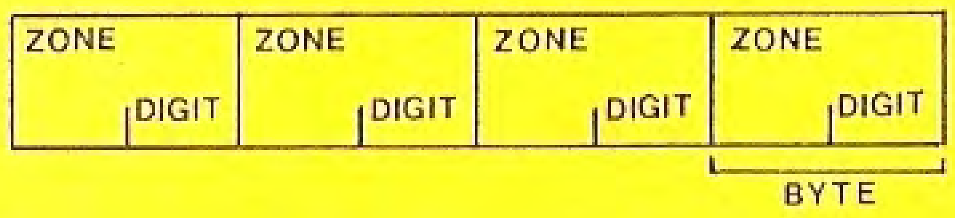
CODE R1 R2	REGISTER-REGISTER
CODE R1 L2	REGISTER-POINTER 2
CODE L1 R2	POINTER 1-REGISTER
CODE R1 I	REGISTER-DECIMAL IMMEDIATE
CODE L1 L2	POINTER 1-POINTER 2
CODE R1 N	WORK REGISTER-REGISTER; N+1 REGISTERS
CODE P X	SPECIAL RECISTER-HEXADECIMAL IMMEDIATE
CODE N R2	WORK REGISTER-POINTER 1 OR PRINTER BUFFER
CODE X X	HEXADECIMAL IMMEDIATE
CODE LLL	POINTER 1 - POINTER 2; OTHERS
CODE	SPECIAL FUNCTIONS
CODE N d	WORK REGISTER-KEYBOARD OR PRINTER BUFFER
CODE R1	SPECIAL FUNCTIONS
CODE dd	SKIPS; OTHERS
CODE DDD	WORK REGISTER-DECIMAL IMMEDIATE CONSTANT
CODE EEE	POINTER-LABEL; BRANCH
CODE EEE ddddd	POINTER-LABEL + DISPLACEMENT; BRANCH WITH DISPLACEMENT

1st BYTE 2nd BYTE 3rd BYTE 4th BYTE

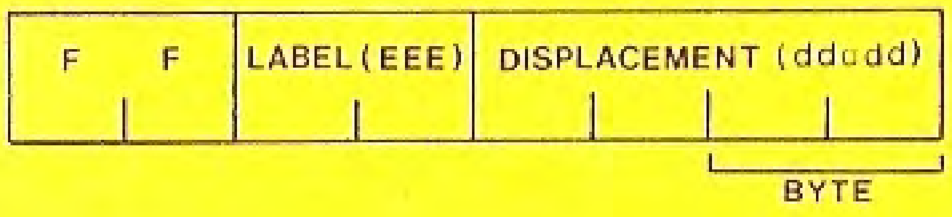
RELEVANT CONFIGURATIONS AND FORMATS



PACKED DECIMAL FORMAT

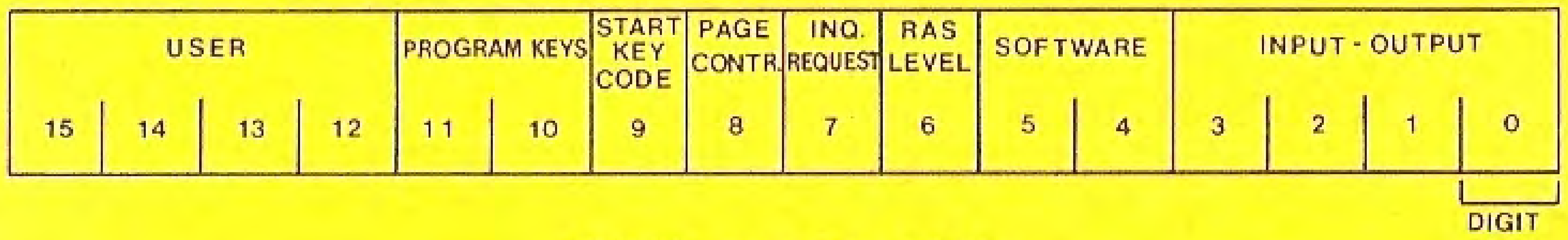


UNPACKED DECIMAL FORMAT

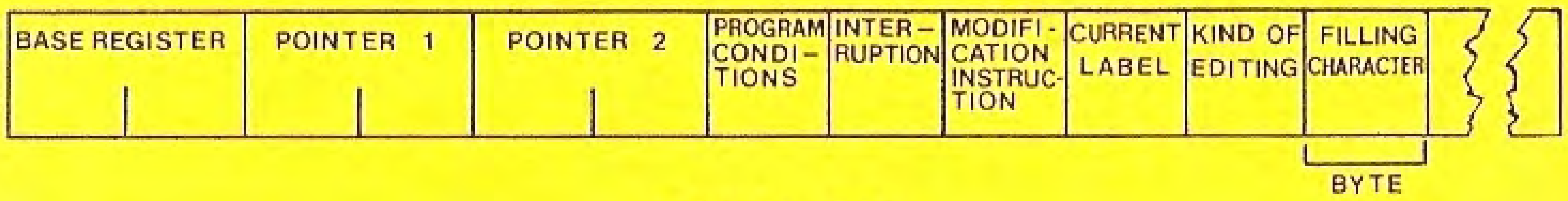


ADDRESS CONSTANT

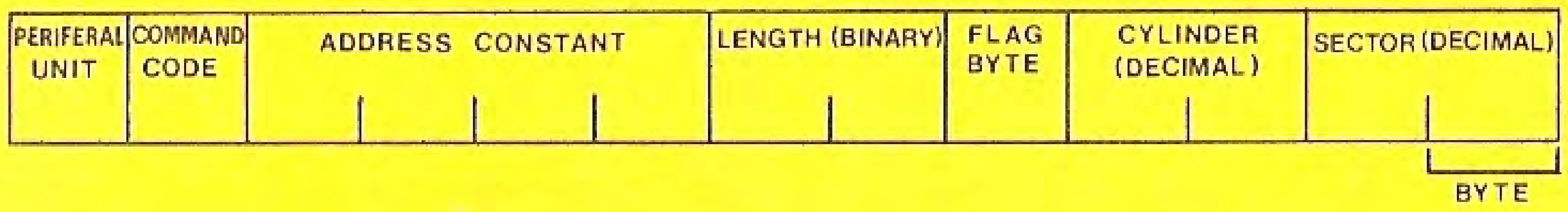
CONDITION REGISTER



RUNNING PROGRAM STATUS



GENERAL C.C.F.



MASK 'X' IN DFP AND LFP INSTRUCTIONS

	DFP 'X', R_2							LFP 'X', R_2					
	DEVICES				PARAMETERS DEFINED			DEVICES				PARAM. LOADED	
MASK 'X'	FRONT FEED 2	LOWER TRACTOR	FRONT FEED 1	UPPER TRACTOR	BASE TABULATION	END OF PAGE	PAGE SIZE	FRONT FEED 2	FRONT FEED 1	LOWER TRACTOR	UPPER TRACTOR	CURRENT FORM POSITION	CURRENT PRINT POSITION
0				x			x				x	x	
1				x		x				x		x	
2			x				x		x			x	
3			x			x		x				x	
4		x					x	x	x	x	x		x
5		x				x							
6	x						x						
7	x					x							
8	x	x	x	x	x								

MASK 'X' IN NL, ON. OFF INSTRUCTIONS

	NL 'X' N				ON-OFF 'X'		
	D E V I C E S				L A M P S		
MASK 'X'	RIGHT PLATEN	LEFT PLATEN	UPPER TRACTOR	LOWER TRACTOR	KEYBOARD ERROR	PROCESSOR CHECK	I/O CHECK
0					x		
1	x					x	
2		x					x
3	x	x					
4			x				
5	x		x				
6		x	x				
7	x	x	x				
8				x			
9	x			x			
A		x		x			
B	x	x		x			

The 'keyboard error' lamp cannot be switched off with the OFF instruction

EDITING GUIDE CODES

GUIDE CODE	0 - 8*	1 - 9*	2 - A	3 - B*	4 - C*	5 - D*	6 - E*	7 - F*
DIGIT SELECTION PLUS SYMBOL	b̸			+	,	-	.	/
DIGIT SELECTION		INTEGER	DECIMAL					

* Stop insignificant zeroes suppression

DECIMAL-HEXADECIMAL CONVERSION

B Y T E				B Y T E			
HEX	DEC	HEX	DEC	HEX	DEC	HEX	DEC
0	0	0	0	0	0	0	0
1	4,096	1	256	1	16	1	1
2	8,192	2	512	2	32	2	2
3	12,288	3	768	3	48	3	3
4	16,384	4	1,024	4	64	4	4
5	20,480	5	1,280	5	80	5	5
6	24,576	6	1,536	6	96	6	6
7	28,672	7	1,792	7	112	7	7
8	32,768	8	2,048	8	128	8	8
9	36,864	9	2,304	9	144	9	9
A	40,960	A	2,560	A	160	A	10
B	45,056	B	2,816	B	176	B	11
C	49,152	C	3,072	C	192	C	12
D	53,248	D	3,328	D	208	D	13
E	57,344	E	3,584	E	224	E	14
F	61,440	F	3,840	F	240	F	15
4		3		2		1	

P O W E R S O F 2	
2^n	n
512	9
1 024	10
2 048	11
4 096	12
8 192	13
16 384	14
32 768	15
65 536	16
131 072	17
262 144	18
524 288	19
1 048 576	20
2 097 152	21
4 194 304	22
8 388 608	23
16 777 216	24

olivetti

Servizio Centrale Formazione Addestramento Personale Industriale
Formazione Amministrativa e Sistemistica

Cod. 3866720 H